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PATENT  
ATTORNEY DOCKET NO. 46884-5461

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kenshi FUKUMITSU et al.	)	Confirmation No.: 3680
	)	
U.S. Application No.: 10/571,142	)	Group Art Unit: 2811
	)	
Filed: March 9, 2006	)	Examiner: Unassigned
	)	
For: SEMICONDUCTOR SUBSTRATE CUTTING	)	
METHOD	)	

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Window Mail Stop: ☐ New Application ☒ Amendment ☐ AF ☐ Issue Fee  
Alexandria, VA 22314

Sir:

**INFORMATION DISCLOSURE STATEMENT (IDS)**

☒ **Under 37 C.F.R. § 1.97(b):** Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b), Applicant brings to the attention of the Examiner the documents listed on the attached PTO Form 1449. To the undersigned's knowledge, this IDS is being filed before the mailing date of a first Office Action on the merits, before the mailing date of a first Office Action on the merits after filing an RCE under § 1.114, or within three months of the application filing date.

☐ **Under 37 C.F.R. § 1.97(c):** Pursuant to 37 C.F.R. §§ 1.56 and 1.97(c), Applicant brings to the attention of the Examiner the documents listed on the attached PTO Form 1449. This IDS is being filed after the events recited in § 1.97(b) but, to the undersigned's knowledge, before the mailing date of a Final Office Action, a Notice of Allowance, or another action that closes prosecution in the application.

☐ The fee of \$180.00 set forth in § 1.17(p) is included herein; or

☐ Applicant submits that each item of information contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS.

☐ **Under 37 C.F.R. § 1.97(d):** Pursuant to 37 C.F.R. §§ 1.56 and 1.97(d), Applicant brings to the attention of the Examiner the documents listed on the attached PTO Form 1449. This IDS is being filed after the events recited in § 1.97(c) but before payment of the issue fee.

☐ The fee of \$180.00 set forth in § 1.17(p) is included herein; and

☐ Applicant submits that each item of information contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS.

☐ **Under 37 C.F.R. § 1.97(i):** Pursuant to 37 C.F.R. §§ 1.56 and 1.97(i), Applicant brings to the attention of the Examiner the documents listed on the attached PTO Form 1449. This IDS is being filed after the events recited in § 1.97(d). Applicant requests that the IDS be placed in the file.

☐ A search report or other listing of documents from a counterpart, related, or other application dated \_\_\_\_\_ and having documents cited thereon is attached for the Examiner's consideration. Any of these documents not previously cited, and any additional documents are listed on the PTO Form 1449.

☒ Applicant respectfully requests that the Examiner consider the listed documents and evidence that consideration by making appropriate notations on the attached form. As for any document listed on the accompanying PTO-1449 that is in a language other than English, relevance can be understood from an enclosed English abstract or at least partial translation or from mention in the specification or in a search report for a corresponding application.

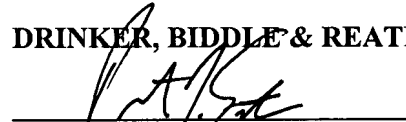
This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that any of the listed documents are material or constitute "prior art." If it should be determined that any of the listed documents do not constitute "prior art" under United States law, Applicant reserve the right to present to the Office the relevant facts and law regarding the appropriate status of such documents.

Applicant further reserves the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should any of the documents be applied against the claims of the present application.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this Application, including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required and including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

**DRINKER, BIDDLE & REATH LLP**



Peter J. Sistare

Registration No. 48,183

Dated: July 31, 2007

**CUSTOMER NO. 055694**

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<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)		Attorney Docket No.: 46884-5461	Serial No.: 10/571,142
PTO Form 1449		Applicants Kenshi FUKUMITSU et al.	Page 1 of 6
		Filing Date: March 9, 2006	Group Art Unit: 2811

### U.S. PATENT DOCUMENTS

*Examiner Initial	Document Number	Date	Name	Class	Sub Class	Filing Date
	2004/0002199	Jan. 1, 2004	Fukuyo et al.	-	-	
	6,992,026	Jan. 31, 2006	Fukuyo et al.	-	-	
	2006/0148212	July 6, 2006	Fukuyo et al.	-	-	
	3,610,871	Oct. 5, 1971	Lumley	-	-	
	3,626,141	Dec. 7, 1971	Daly	-	-	
	3,629,545	Dec. 21, 1971	Graham et al.	-	-	
	3,790,051	Feb. 5, 1974	Moore	-	-	
	4,242,152	Dec. 30, 1980	Stone	-	-	
	4,531,060	Jul. 23, 1985	Suwa et al.	-	-	
	5,230,184	Jul. 27, 1993	Bukhman	-	-	
	5,841,543	Nov. 24, 1998	Guldi et al.	-	-	
	5,925,271	Jul. 20, 1999	Pollack et al.	-	-	
	5,968,382	Oct. 19, 1999	Matsumoto et al.	-	-	
	5,976,392	Nov. 2, 1999	Chen	-	-	
	6,031,201	Feb. 29, 2000	Amako et al.	-	-	
	6,175,096	Jan. 16, 2001	Nielsen	-	-	
	6,181,728	Jan. 30, 2001	Cordingley et al.	-	-	
	6,285,002	Sep. 4, 2001	Ngoi et al.	-	-	
	6,325,855	Dec. 4, 2001	Sillmon et al.	-	-	
	2002/0170896	Nov. 21, 2002	Choo et al.	-	-	
	2005/0189330	Sep. 1, 2005	Fukuyo et al.	-	-	
	6,992,026	Jan. 31, 2006	Fukuyo et al.	-	-	
	2006/0040473	Feb. 23, 2006	Fukuyo et al.	-	-	

### FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Sub Class	Translation YES NO
WO 02/22301 A1	March 21, 2002	PCT			Abstract
165354	Aug. 1, 1991	Taiwan			Abstract
192484	Oct. 11, 1992	Taiwan			Abstract
219906	Feb. 1, 1994	Taiwan			Abstract
WO 2004/082006	Sep. 23, 2004	PCT			Abstract
0 863 231	Sep. 9, 1998	Europe			
2001-017690	Mar. 5, 2001	Korea			Abstract
59-130438	Jul. 27, 1984	Japan			Abstract
60-144985	Jul. 31, 1985	Japan			Abstract
62-004341	Jan. 10, 1987	Japan			Abstract
64-038209	Feb. 8, 1989	Japan			Abstract
03-276662	Dec. 6, 1991	Japan			Abstract

Examiner	Date Considered
Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

<b>INFORMATION DISCLOSURE CITATION</b>				Attorney Docket No.: 46884-5461		Serial No.: 10/571,142	
(Use several sheets if necessary)				Applicants Kenshi FUKUMITSU et al.		Page 2 of 6	
PTO Form 1449				Filing Date: March 9, 2006		Group Art Unit: 2811	
<b>U.S. PATENT DOCUMENTS</b>							
*Examiner Initial		Document Number	Date	Name	Class	Sub Class	Filing Date
		5,656,186	August 12, 1997	Mourou et al.	-	-	
		5,543,365	August 6, 1996	Wills et al.	-	-	
		2004/0002199 A1	January 1, 2004	Fukuyo et al.	-	-	
		5,211,805	May 18, 1993	Srinivasan	-	-	
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Sub Class	<u>Translation</u> YES NO
		04-029352	Jan. 31, 1992	Japan			Abstract
		04-300084	Oct. 23, 1992	Japan			Abstract
		08-197271	Aug. 6, 1996	Japan			Abstract
		09-260310	Oct. 3, 1997	Japan			Abstract
		10-071483	Mar. 17, 1998	Japan			Abstract
		10-214997	Aug. 11, 1998	Japan			Abstract
		10-233373	Sep. 2, 1998	Japan			Abstract
		11-071124	Mar. 16, 1999	Japan			Abstract
		2000-216114	Aug. 4, 2000	Japan			Abstract
		2000-210785	Aug. 2, 2000	Japan			Abstract
		2000-237885	Sep. 5, 2000	Japan			Abstract
		2000-237886	Sep. 5, 2000	Japan			Abstract
		2001-127015	May 11, 2001	Japan			Abstract
		2001-326194	Nov. 22, 2001	Japan			Abstract
		2002-192368	Jul. 10, 2002	Japan			Abstract
		2002-205181	Jul. 23, 2002	Japan			Abstract
		2002-224878	Aug. 13, 2002	Japan			Abstract
		2005-047290	Feb. 24, 2005	Japan			Abstract
		2005-313237	Nov. 10, 2005	Japan			Abstract
		JP 8-264488	Oct. 11, 1996	Japan			Abstract
		JP 9-017831	Jan. 17, 1997	Japan			Abstract
		JP 11-121517	Apr. 30, 1999	Japan			Abstract
		WO 03/076118	Sep. 18, 2003	Japan			Abstract
<b>OTHER DOCUMENTS</b>							
(Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.)							
		A. Ishii et al., CO2 Laser Processing Technology, Nikkan Kogyo Publishing Production, Dec. 21, 1992, pp. 63-65 (with partial English translation)					
Examiner					Date Considered		
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<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Sub Class	<b>Translation</b> <b>YES</b> <b>NO</b>
		JP 2006-135355	May 25, 2006	Japan			Abstract
		JP 4-188847	July 7, 1992	Japan			Abstract
		JP 7-263382	October 13, 1995	Japan			Abstract
		JP 9-263734	October 7, 1997	Japan			Abstract
		JP 2006-128723	May 18, 2006	Japan			Abstract
		JP 2002-192367	July 10, 2002	Japan			Abstract
		JP 2000-042764	February 15, 2000	Japan			Abstract
		JP 5-335726	December 17, 1993	Japan			Abstract
		11-162889	June 18, 1999	Japan			Abstract
		61-121453	Sept. 6, 1986	Japan			Abstract
		2005-001001	Jan. 6, 2005	Japan			Abstract
		2003-334812	Nov. 25, 2003	Japan			Abstract
		2000-042764	Feb. 15, 2000	Japan			Abstract
		05-335726	Dec. 17, 1993	Japan			Abstract
		2003-338467	Nov. 28, 2003	Japan			Abstract
		11-163097	June 18, 1999	Japan			Abstract
		06-188310	July 8, 1994	Japan			Abstract
		WO 03/076118 A1	Sept. 18, 2003	PCT			Abstract
		2002-192369	Oct. 7, 2002	Japan			Abstract
		2005-159378	June 16, 2005	Japan			Abstract
		2005-159379	June 16, 2005	Japan			Abstract
		2002-192371	July 10, 2002	Japan			Abstract
		EP 1 026 735 A2	August 9, 2000	EP			
		WO 02/07927 A1	January 31, 2002	PCT			
		10-305420	November 17, 1998	JP			Abstract
		04-111800	April 13, 1992	JP			Abstract
		09-017756	January 17, 1997	JP			Abstract
		07-037840	February 7, 1995	JP			Abstract
		2000-124537	April 28, 2000	JP			Abstract
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<b>U.S. PATENT DOCUMENTS</b>							
*Examiner Initial		Document Number	Date	Name	Class	Sub Class	Filing Date
		4,562,333	Dec. 31, 1985	TAUB et al.	-	-	
		5,254,833	Oct. 19, 1993	OKIYAMA	-	-	
		5,543,365	Aug. 6, 1996	WILLS et al.	-	-	
		5,622,540	Apr. 22, 1997	STEVENS	-	-	
		5,637,244	Jun. 10, 1997	EROKHIN	-	-	
		5,776,220	Jul. 7, 1998	ALLAIRE et al.	-	-	
		5,826,772	Oct. 27, 1998	ARIGLIO et al.	-	-	
		6,055,829	May 2, 2000	WITZMANN et al.	-	-	
		6,211,488 B1	Apr. 3, 2001	HOEKSTRA et al.	-	-	
		6,252,197 B1	Jun. 26, 2001	HOEKSTRA et al.	-	-	
		6,257,224 B1	Jul. 10, 2001	YOSHINO et al.	-	-	
		6,259,058 B1	Jul. 10, 2001	HOEKSTRA	-	-	
		6,322,958 B1	Nov. 27, 2001	HAYASHI	-	-	
		6,420,678 B1	Jul. 16, 2002	HOEKSTRA	-	-	
		6,489,588	Dec. 3, 2002	HOEKSTRA et al.	-	-	
		2002/0006765 A1	Jan. 17, 2002	MICHEL et al.	-	-	
		2003/0024909 A1	Feb. 6, 2003	HOEKSTRA et al.	-	-	
		5,211,805	May 18, 1993	SRINIVASAN	-	-	
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Sub Class	<u>Translation</u> YES NO
		46-24989 (corresponding to U.S. 3,629,545)	July 19, 1971	JP			
<b>OTHER DOCUMENTS</b>							
(Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.)							
		"New Laser Handbook" published by Asakusa Shoten, June 15, 1989, pp. 666-669, including English language translation					
		Tooling Machine Series, "Laser Machining" published by Taiga Shuppan Inc., 1990, pp. 91-96, including English language translation					
		"Stealth Dicing, It's Principles and Features: A Technology Most Suitable for Dicing Very Thin Semiconductor Wafers" published by Takaoka Hidetsugu, Electronic Material No. 9, 2002, pp. 17-21, including English language translation					
		Journal of the Japan Society of Gridding Engineers, Vol. 47, No. 5, May (2003), pp. 229-231, including English language translation					
		T. Miyazaki, "Laser Beam Machining Technology," Published by Sangyo-Tosho Inc., May 31, 1991, First Edition. pp. 9-10.					
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		2005/0184037	August 25, 2005	Fukuyo et al.	-	-	
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Sub Class	<u>Translation</u> YES NO
		2000-015467 A	Jan. 18, 2000	JP			Abstract
		2000-219528 A	Aug. 8, 2000	JP			Abstract
		11-163403 A	Jun. 18, 1999	JP			X
		11-177137 A	Jul. 2, 1999	JP			X
		04-111800 A	Apr. 13, 1992	JP			X
		10-305420 A	Nov. 17, 1998	JP			Abstract
		02/22301 A	Mar. 21, 2002	WO			Abstract
		01/90709 A	Nov. 29, 2001	WO			Abstract
		61-112345 A	May 30, 1986	JP			Abstract
		2003-001458 A	Jan. 8, 2003	JP			Abstract
		2001-250798 A	Sept. 14, 2001	JP			Abstract
		04-356942 A	Dec. 10, 1992	JP			Abstract
		2000-195828 A	Jul. 14, 2000	JP			Abstract
		03-234043 A	Oct. 18, 1991	JP			Abstract
		2002-050589 A	Feb. 15, 2002	JP			Abstract
		59-141233	August 13, 1984	JP			Abstract
		11-156564	June 15, 1999	JP			Abstract
		2000-158156	June 13, 2000	JP			Abstract
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
F. Fukuyo et al., "Stealth Dicing Technology for Ultra Thin Wafer", presented at 2003 ICEP (International Conference on Electronics Packaging), April 16-18, 2003, Tokyo, Japan.							
Katsumi MIDORIKAWA. "Recent Progress of Femtosecond Lasers and Their Applications to Material Processing", Dai 45 Kai Laser Netsukako Kenkyukai Ronbunshu, December 1998, pp. 29-38.							
T. Sano et al., "Ultrashort Pulse Laser Microprocessing of Silicon", Japan Welding Society Zenkoku Taikai Koen Gaiyo, March 2000, pp. 72-73.							
K. Miura et al., "Formation of Photo-induced Structures in Glasses with Femtosecond Laser," Dai 42 Kai Laser Netsukako Kenkyukai Ronbunshu, November 1997, pp. 107, line 4 to pp. 109, line 5.							
K. Hayashi, "Inner Glass Marking by Harmonics of Solid-state Laser", Dai 45 Kai Laser Netsukako Kenkyukai Ronbunshu, December 1998, pp. 23-28.							
"Proceedings of the 63 <sup>rd</sup> Laser Materials Processing Conference", May 2005, pp. 115-123.							
The 6 <sup>th</sup> International Symposium on Laser Precision Microfabrication, April 2005.							
"Journal of Japan Laser Processing Society", Vol. 12, No. 1, February 2005, pp. 115-123.							
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